
PERSONAL COMMUNICATIONS SERVICES: CROSSING THE LINE FROM REGULATION TO IMPLEMENTATION

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Emerging telecommunications technologies yield a wide array of new services with the potential to broaden consumer choice, increase competition, support United States leadership in the mobile communications equipment sector, produce new jobs and generate more than \$30 billion in investment opportunities. The Federal Communications Commission ("FCC" or "Commission") has conducted numerous proceedings, held public hearings and issued more than 220 experimental authorizations as part of its initiative to promote emerging technologies. As early as 1989, the Commission began encouraging discussion from the private sector regarding the establishment of rules and regulations to facilitate the implementation of new services and to allow emerging technologies and existing systems to share the spectrum. Since the advent of cellular service in the early 1980s, advances in mobile technologies have sparked interest in and debate over the development of new mobile services. The private sector has expressed a particularly strong interest in a class of services referred to as "Personal Communications Services" or "PCS." PCS involves a new generation of wireless voice, data and video services emerging from the trend towards mobile communications.¹

The Commission has made great strides since first taking action on PCS in its June 1990 *Notice of Inquiry*.² Many of the regulatory issues to which the *PCS Notice of Inquiry* gave rise have been resolved. These issues include: (i) the portion of the spectrum

to be allocated; (ii) license eligibility; (iii) classification of PCS as a private or common carrier; and (iv) the PCS licensing process.³ On September 23, 1993, the Commission adopted a *Notice of Proposed Rule Making*⁴ to implement its new authority to use competitive bidding to award licenses for PCS,⁵ the first communications service to be licensed under this method.⁶ On March 8, 1994, the Commission adopted a *Second Report and Order* to establish general rules and procedures to govern the competitive bidding process.⁷ Future actions by the Commission will set forth specific competitive bidding regulations for licensing specific services.

This Comment explores the evolution of PCS and the recent developments proposed by the Commission in its quest to provide an efficient, long-term regulatory scheme for PCS. Part I defines PCS and examines the useful advantages of this new mobile communications service. Part II takes the reader through the history of the FCC's involvement in PCS. Part III discusses several regulatory issues surrounding the implementation of PCS and those actions the Commission has already taken to resolve these issues. Part IV analyzes the Commission's proposal to implement competitive bidding to award licenses for PCS and concludes that the use of competitive bidding will promote economic growth, advance competition, and reduce delays in the implementation of PCS.

¹ See *In re* Amendment of the Commission's Rules to Establish New Personal Communications Services, *Notice of Proposed Rule Making and Tentative Decision*, 7 FCC Rcd. 5676, para. 29 (1992) [hereinafter *PCS NPRM*].

² See generally *In re* Amendment of the Commission's Rules to Establish New Personal Communications Services, *Notice of Inquiry*, 5 FCC Rcd. 3995 (1990) [hereinafter *PCS NOI*].

³ *Id.* para. 1.

⁴ *In re* Implementation of Section 309(j) of the Communications Act - Competitive Bidding, *Notice of Proposed Rule Making*, 8 FCC Rcd. 7635 (1993) [hereinafter *Competitive Bidding NPRM*].

⁵ Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, Title VI, § 6002(a), 107 Stat. 312, 388 (1993) (to be codified at 47 U.S.C. § 309(j)). Congress had previously authorized the Commission to use only two methods for selecting among mutually exclusive applications: comparative hearings and lotteries. *PCS NPRM*, *supra* note 1, para. 82.

⁶ *Competitive Bidding NPRM*, *supra* note 4, para. 3.

⁷ *In re* Implementation of Section 309(j) of the Communications Act - Competitive Bidding, *Second Report and Order* in PP Dkt. No. 93-253, FCC 94-61 (Apr. 20, 1994) [hereinafter *Competitive Bidding Second Report and Order*].

I. EVOLUTION OF PERSONAL COMMUNICATIONS SERVICES

A. Defining PCS

"What is PCS? No one has yet defined it in clear, sharp terms. Mostly it seems to be a competitive gleam in the eye of its would-be parents."⁸

From the beginning, PCS has been difficult to define because the concept of a "personal communications service" has grown in scope and complexity with the abundance of new mobile services technologies.⁹ The Commission broadly defines PCS as "a family of mobile or portable radio communications services which could provide services to individuals and business" virtually anytime, anywhere.¹⁰ PCS technology includes cordless telephones, paging services and car telephones.¹¹ The PCS technology of the future is envisioned to include lightweight wireless telephone handsets, portable facsimile devices, and other communications devices, which will allow users to send and receive voice, data and video communications to and from any location.¹²

B. Benefits of PCS: A Comparison to Existing Cellular Technology

Encompassing a trend toward "person-to-person" instead of "station-to-station" communication service, PCS confers upon the user what is often referred to as "location independence."¹³ In the words of former FCC commissioner and current president of Public Broadcasting Service, Ervin S. Duggan, "[i]t really won't matter much in the future where you happen to be if you are in an area served by

PCS."¹⁴ Existing cellular services also provide location independence, but not nearly as much as PCS promises to provide.¹⁵

To more fully demonstrate the difference, consider a wireless device such as a cellular portable telephone. Cellular systems transmit calls via analog radio waves, have a range of approximately twenty miles from the transmitter stations set up to send and receive signals and operate best in open spaces.¹⁶ In comparison, PCS systems will operate at a higher frequency, transmit calls digitally, have a range of approximately 1000 feet from a transmitter station and operate in open spaces just as well as from inside a home, office or subway.¹⁷

Many industry experts predict that PCS will be far more economical than existing cellular services.¹⁸ A variety of cellular services, primarily aimed at the business consumer, have been in place for over ten years and yet the cost of using these services remains artificially high.¹⁹ Proponents of PCS are marketing it as an affordable service for the masses, not just the business users.²⁰ The cost of using PCS can be shared by a larger number of consumers because PCS systems will have the capability of serving almost twenty times as many people as cellular systems.²¹

C. Need for Promotion of PCS Development

"The 1990s have been called the age of advanced radio-based communications, and many of America's trade and technology rivals have already taken steps to foster the development of new services based on emerging technologies. It is important that the United States and Americans be able to participate."²²

⁸ Ervin S. Duggan, Remarks before the Cellular Telecommunications Industry Association (June 13, 1991) (transcript available at the Federal Communications Commission, Washington, D.C.) (Commissioner Duggan comparing PCS and the cellular industry).

⁹ See generally *In re Amendment of the Commission's Rules to Establish New Personal Communications Services, Policy Statement and Order*, 6 FCC Rcd. 6601 (1991) [hereinafter *PCS Policy Statement*].

¹⁰ *PCS NPRM*, *supra* note 1, para. 29.

¹¹ *PCS NOI*, *supra* note 2, para. 2.

¹² *In re Amendment of the Commission's Rules to Establish New Personal Communications Services, Second Report and Order*, 8 FCC Rcd. 7700, paras. 17-18 (1993) [hereinafter *PCS Second Report and Order*].

¹³ *PCS NOI*, *supra* note 2, para. 3.

¹⁴ Ervin S. Duggan, The Future of Personal Communications Services, Remarks before the Telestrategies, Inc. Personal Communications Services Conference 3 (May 25, 1993).

¹⁵ *PCS NPRM*, *supra* note 1, para. 25.

¹⁶ Anthony Ramirez, *Mapping Out the Wireless-Phone Future*, N.Y. TIMES, Nov. 12, 1992, at D6.

¹⁷ *Id.*; John J. Keller & Gautam Naik, *New Wireless Phone Networks Take First Step Toward Reality*, WALL ST. J., Sept. 23, 1993, at B1.

¹⁸ Edmund L. Andrews, *F.C.C. Clearing Airwaves For An Era Without Wires*, N.Y. TIMES, Sept. 20, 1993, at D10. Developers predict that PCS telephones will cost less than \$100 to buy and less than 20 cents per minute to use. Kurt A. Wimmer, *Global Development of Personal Communications Services*, COMM. LAWYER, Summer 1992, at 7.

¹⁹ Ramirez, *supra* note 16, at D6.

²⁰ David A. Irwin, *PCS and PCN: The Emerging Era of Lifestyle Telecommunications*, OPASTCO Roundtable, Fall 1991, at 479.

²¹ Andrews, *supra* note 18, at D10.

²² *Allocating Radio Spectrum For New Services Based on Emerging Telecommunications Technologies: Before the Sub-*

The United States is becoming an increasingly mobile society.²³ Consumer expectations for clearer and faster communication services have developed due in part to factors such as improved digital technology and more efficient switching.²⁴ Traditional economic models predict that the establishment of PCS will bring competition to the mobile services market, resulting in increased efficiency and lower service costs to the consumer.²⁵

Furthermore, there is an increasing global interest in PCS.²⁶ Delays in PCS implementation may result in the United States losing its competitive edge in the development of innovative mobile radio communications equipment and service on a world-wide scale.²⁷

The key players in the communications industry have led the mobile services communication revolution. Many communications companies have decided to combine their resources and efforts and commit them to research and development of PCS systems as well as other mobile services.²⁸ For example, MCI Communications Corp., Northern Telecom, Inc., and four other companies are working together to develop specifications to ensure that different PCS systems will be compatible with existing voice and data mobile service equipment on a nationwide basis.²⁹ Prior to the proposed merger of AT&T and McCaw Cellular Communications, Inc., AT&T and McCaw had been working together on various mobile communications equipment.³⁰ Additionally, AT&T had filed for FCC approval to conduct tests of AT&T Bell Laboratories' PCS technology.³¹ In December 1993, five of the nation's largest cable companies joined together to develop PCS systems.³²

Other major companies such as American Personal Communications, Ameritech Corp., BellSouth Enterprises, Inc. and Sprint Corp. have been conducting ongoing experiments for PCS.³³

II. HISTORY OF THE FCC'S INVOLVEMENT IN PCS

A. Establishing Guidelines To Grow On

"[F]or perhaps no pending issue is more difficult or fraught with more controversy than the question of how we will bring into being and regulate PCS."³⁴

In the late 1980s, when PCS was more a vision than a reality, the Commission faced the monumental task of establishing a regulatory foundation that would bring PCS to the public as quickly and efficiently as possible.³⁵ In 1989, the Commission received petitions for rulemaking from two communications companies that asked the FCC to allocate a portion of the spectrum for Personal Communications Services.³⁶ The Commission adopted a *Notice of Inquiry* on June 14, 1990, seeking information to help it develop regulatory policies for the establishment of these services.³⁷

The FCC indicated that the purpose of the inquiry was to begin planning for new services, such as PCS, which would offer "significant improvements in communications capabilities for individuals."³⁸ The Commission requested commenters to predict the consumer demand for PCS.³⁹ The Com-

comm. on Comm. of the Senate Comm. on Com., Science, and Transp., 102d Cong., 2d Sess. 1 (1992) (statement of Alfred C. Sikes, Chairman, Federal Communications Commission).

²³ PCS NPRM, *supra* note 1, para. 25; see also Thomas A. Monheim, *Personal Communications Services: The Wireless Future of Telecommunications*, 44 FED. COM. L.J. 335, 343 (1992).

²⁴ Monheim, *supra* note 23, at 344.

²⁵ PCS NPRM, *supra* note 1, para. 26.

²⁶ *Id.* Since 1989, the United Kingdom, France, Germany, Japan, Canada and other countries began allocating spectrum for PCS and awarding national licenses to potential PCS service providers. Wimmer, *supra* note 18, at 24-26.

²⁷ PCS NPRM, *supra* note 1, para. 27.

²⁸ See, e.g., Cande Wilde, *Who's Doing What In PCS Testing and R&D*, COMM. WEEK, Sept. 27, 1993 (reviewing latest mergers and deals between communications companies).

²⁹ MCI Forms Partnership To Develop Interoperable PCS Standard, ADVANCED WIRELESS COMMS., Nov. 24, 1993 (suggesting specifications should benefit United States users, with ability to interoperate with existing global specifications).

³⁰ Wilde, *supra* note 28.

³¹ *Id.*

³² Bill Burch, *Cable Companies Team Against Telcos*, NETWORK WORLD, Dec. 6, 1993. The five cable companies who have agreed to join forces include Comcast, Continental Cablevision, Cox Cable Communications, Tele-Communications and Time Warner Entertainment. *Id.*

³³ Wilde, *supra* note 28.

³⁴ Ervin S. Duggan, Remarks before the Federal Communications Bar Association Land Mobile Practice Committee 1 (June 2, 1993).

³⁵ PCS NPRM, *supra* note 1, para. 1.

³⁶ PCS NOI, *supra* note 2. Cellular 21, Inc., filed a petition for rulemaking requesting that the Commission allocate the 940-941 MHz band for CT-2, or what is known as second generation cordless telephones. PCN America, Inc., filed a petition for rulemaking requesting that the Commission allocate the 1700-2300 MHz band for personal communications networks ("PCNs"), or digital cordless telephone radio networks built on microcell technology. See *id.* paras. 8-9.

³⁷ *Id.* para. 1. The Commission had already received several requests for experimental authorization to begin developing equipment and conducting market surveys for PCS. *Id.* para. 7.

³⁸ *Id.* para. 11.

³⁹ *Id.* para. 13.

mission also requested assessments of various spectrum allocation issues such as: (i) the amount of spectrum to allocate for these new services; (ii) the number of licensees; and (iii) the impact PCS would have on existing allocated services.⁴⁰ Finally, the Commission invited commenters to address whether there is a need for eligibility restrictions on PCS licenses, and whether PCS providers should be classified as private or common carriers.⁴¹

In response to the *PCS Notice of Inquiry*, the Commission received numerous comments and additional petitions for rulemakings that proposed new PCS services.⁴² A broad array of communications service providers, including cable television providers, microwave common carriers, private radio entities, local exchange carriers ("LECs"), and cellular radio telephone providers expressed an interest in PCS.⁴³

On October 24, 1991, the FCC adopted a *Policy Statement and Order* that provided preliminary guidance for the development of PCS.⁴⁴ The Commission stated that the *Policy Statement* would also serve as the basis for an *en banc* hearing to provide the Commission with more information concerning PCS development.⁴⁵ In the *Policy Statement*, the Commission set forth its intention to broadly define PCS and to make available a sufficient amount of the spectrum for the implementation of PCS to facilitate local, regional, national and international uses with minimal disruption to existing users.⁴⁶

On December 5, 1991, the Commission held an *en banc* hearing regarding PCS.⁴⁷ The Commission heard testimony on a full range of topics including: definition of anticipated types of PCS services; spectrum requirements and the placement of PCS within the allocation table; technological standards to be applied; and a variety of regulatory issues concerning the method of assigning licenses, eligibility require-

ments and the classification of PCS as a common or private carrier.⁴⁸

Comments concerning both the policy statement and the *en banc* hearing demonstrated that there was substantial interest in the spectrum to be allocated for PCS.⁴⁹ Commenters asserted that this allocation is needed for PCS to provide adequate competition to existing mobile services, such as cellular service.⁵⁰

On January 16, 1992, the Commission initiated a proceeding that proposed to allocate 20 MHz of spectrum in the 1850 - 2200 MHz range to meet the spectrum requirements for new services such as PCS.⁵¹ On July 16, 1992, the Commission adopted a *Notice of Proposed Rule Making and Tentative Decision* seeking comment on how to structure the regulatory treatment of PCS.⁵² With this action, the Commission set forth its goal of bringing PCS to the public with as little regulatory delay as possible.⁵³

Following the *PCS NPRM*, the FCC adopted a *Further Notice of Proposed Rule Making* to reallocate several bands of the spectrum located above 3 GHz to private and common carrier fixed microwave users currently located in the 2 GHz band.⁵⁴ The Commission's reallocation proposal was based on information and comments suggesting that the 2 GHz band would be the ideal spot in the spectrum to locate new PCS services.⁵⁵ The underlying problem with allocating the 2 GHz portion of the spectrum to PCS service providers was that this part of the spectrum already had been allocated to fixed microwave users.⁵⁶ Therefore, the Commission proposed to make more room for PCS in the 2 GHz band and move the fixed microwave users up to the 3 GHz band.⁵⁷ On September 17, 1992, the Commission adopted the *First Report and Order and Third Notice of Proposed Rule Making* proposing to allocate 220 MHz of the 2 GHz spectrum for emerging technologies such as PCS.⁵⁸

⁴⁰ *Id.* para. 19.

⁴¹ *Id.* paras. 27-28.

⁴² *PCS NPRM*, *supra* note 1, para. 10.

⁴³ *PCS NOI*, *supra* note 2, para. 2. Computer manufacturers also have indicated an interest in PCS development. *PCS Policy Statement*, *supra* note 9, para. 2.

⁴⁴ *PCS Policy Statement*, *supra* note 9, para. 1.

⁴⁵ *Id.*

⁴⁶ *Id.* paras. 3-4.

⁴⁷ *PCS NPRM*, *supra* note 1, paras. 14-15 (discussing the results of the hearing).

⁴⁸ *Id.*

⁴⁹ *Id.* para. 15.

⁵⁰ *Id.*

⁵¹ *In re Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, Notice of Proposed Rule Making*, 7 FCC Rcd. 1542, para. 1,

(1992) [hereinafter *Spectrum NPRM*].

⁵² *PCS NPRM*, *supra* note 1, para. 1.

⁵³ *Id.*

⁵⁴ *In re Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, Further Notice of Proposed Rule Making*, 7 FCC Rcd. 6100, para. 1 (1992) [hereinafter *Spectrum FNPRM*].

⁵⁵ *PCS NPRM*, *supra* note 1, para. 32.

⁵⁶ *Id.*

⁵⁷ *Spectrum FNPRM*, *supra* note 54, para. 1.

⁵⁸ *In re Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, First Report and Order and Third Notice of Proposed Rule Making*, 7 FCC Rcd. 6886 (1992) [hereinafter *Spectrum Redevelopment Order*]. The Commission allocated 220 MHz in the 2 GHz (1850-1990, 2110-2150, and 2160-2200 MHz) band. *Id.* para. 21.

The 2 GHz band currently is allocated to fixed microwave licensees.⁵⁹ The *Spectrum Redevelopment Order* proposed a transition schedule designed to protect the incumbent users from dislocation, cost concerns, and service disruption.⁶⁰ The protection schemes discussed by the Commission included relocation or sharing arrangements between new PCS service providers and incumbent microwave users, as well as compensation requirements for PCS service providers planning to displace the fixed users from the 2 GHz band to the newly reallocated 3 GHz band.⁶¹

One month later, on October 8, 1992, the FCC granted tentative pioneer's preferences to American Personal Communications, Cox Enterprises, Inc., and Omnipoint Communications, Inc.⁶² The Commission designed the pioneer's preference program "to encourage and reward innovation in spectrum-based services" by guaranteeing that the innovators would receive a license for the technology they developed.⁶³

On June 24, 1993, the Commission allocated spectrum in the 900 MHz band for PCS.⁶⁴ The Commission adopted a *Second Report and Order* on July 15, 1993, reallocating five fixed microwave bands and adopting rules to accommodate existing 2 GHz fixed microwave users.⁶⁵ On this same date, the Commission continued its spectrum redevelopment proceeding by adopting a plan that would enable new service providers to either share spectrum with

incumbent operators or relocate the incumbent operators to other bands in the spectrum.⁶⁶

On September 23, 1993, the Commission adopted a *Second Report and Order* on the establishment of PCS.⁶⁷ On this same date, the Commission adopted a *Notice of Proposed Rule Making* to implement the use of auctions to grant PCS licenses.⁶⁸ Also on this date, the Commission initiated a rulemaking on the implementation of the Omnibus Budget Reconciliation Act of 1993 ("1993 Budget Act"), which in addition to adding section 309(j) to the Communications Act of 1934 ("1934 Act"), amended sections 3(n) and 332 of the 1934 Act.⁶⁹ Sections 3(n) and 332 require the FCC to create a regulatory framework for mobile radio services and to establish rules defining the regulatory treatment of mobile services, including PCS.⁷⁰

On October 21, 1993, the Commission initiated a review of its pioneer's preference rules in order to assess the effect of the recently authorized competitive bidding licensing scheme.⁷¹ Prior to competitive bidding, a potential innovator did not have any control over getting a license.⁷² However, in an auction-based licensing scheme, the innovator can exert control by outbidding other applicants for a license.⁷³

On March 8, 1994, the Commission terminated its spectrum redevelopment proceeding by a final action that refines and clarifies the rules and policies adopted to make spectrum available for new emerg-

⁵⁹ *Id.* para. 3.

⁶⁰ *Id.* para. 1.

⁶¹ *Id.*

⁶² See *In re Amendment of the Commission's Rules to Establish New Personal Communications Services, Tentative Decision and Memorandum Opinion and Order*, 7 FCC Rcd. 7794 (1992) [hereinafter *Pioneer's Preference Order*] (discussing the FCC's standards for awarding pioneer's preferences).

⁶³ *FCC's Preference Policy Receives More Support Than Criticism*, PCS NEWS, Nov. 25, 1993, at 8-10.

⁶⁴ *In re Amendment of the Commission's Rules to Establish New Narrowband Personal Communications Services, First Report and Order*, 8 FCC Rcd. 7162, para. 1 (1993) [hereinafter *PCS First Report and Order*].

⁶⁵ *In re Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, Second Report and Order*, 8 FCC Rcd. 6495, para. 1 (1993) [hereinafter *Spectrum Redevelopment Second R&O*].

⁶⁶ *In re Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, Third Report and Order and Memorandum Opinion and Order*, 8 FCC Rcd. 6589, para. 1 (1993) [hereinafter *Spectrum Redevelopment Third R&O*].

⁶⁷ *PCS Second Report and Order*, *supra* note 12, para. 1.

⁶⁸ *Competitive Bidding NPRM*, *supra* note 4.

⁶⁹ Pub. L. No. 103-66, § 6002(c), 107 Stat. at 396.

⁷⁰ *In re Implementation of Sections 3(n) and 332 of the Communications Act Regulatory Treatment of Mobile Services, Notice of Proposed Rule Making*, 8 FCC Rcd. 7988, para. 1 (1993) [hereinafter *Mobile Services NPRM*].

⁷¹ *In re Review of the Pioneer's Preference Rules, Notice of Proposed Rule Making*, 8 FCC Rcd. 7692, para. 1 (1993) [hereinafter *Pioneer's Preference NPRM*].

⁷² *Id.* para. 7. The Commission chose the best candidate through comparative hearings and the luckiest applicant won a license through lotteries. See *id.*

⁷³ *Id.* Commenters on the *Pioneer's Preference NPRM* indicated, by a ratio of approximately two to one, that the Commission should continue its pioneer's preference program. PCS NEWS, *supra* note 63. Proponents of pioneer's preferences asserted that auctions had been "in the works" long before the Commission started its pioneer's preference policy. *Id.* Opponents of the program said that pioneer's preference would "interfere with the efficacy of the auction process," especially if it resulted in setting aside major sections of the spectrum being auctioned. *Id.*

In early January 1994, after reviewing the comments, the Commission granted APC, Cox and Omnipoint 30 MHz of spectrum for PCS and pioneer's preference status. *Executive Summary*, INFO. WEEK, Jan. 3, 1994, at 1. Other companies were forced to wait until May 1994 to participate in the bidding and obtain a portion of the spectrum. *Id.*

ing telecommunications technologies.⁷⁴ On this same date, the Commission adopted a *Second Report and Order* prescribing general rules to implement competitive bidding to award licenses for use of the spectrum.⁷⁵

B. Balancing Values in Providing a Regulatory Structure for PCS

In providing a regulatory structure for PCS, the Commission's intent is to ensure that PCS services, along with all mobile services, are provided with "the highest quality at low-cost, reasonable rates to the greatest number of consumers, consistent with the goals of the Communications Act."⁷⁶ The Commission set forth four goals in its effort to create a policy and regulatory structure for new PCS services: (1) competition in the delivery of services; (2) speed of deployment; (3) universality of services; and (4) diversity of services.⁷⁷

The majority of comments received on the Commission's PCS regulatory proposals indicated that a steady level of competition in the delivery of services helps increase the efficiency of mobile service providers and keeps the consumer cost of these services at a reasonable and affordable level.⁷⁸ A high level of service competition, however, would be meaningless if the regulatory issues caused a several year delay in the implementation of PCS. The results of a Market Forecast study done in September 1992 suggested that a delay in licensing PCS until 1997 would result in approximately ten million fewer PCS subscribers by the year 2002.⁷⁹ Additionally, because other countries are aggressively pursuing PCS deployment, the United States would lose its competitive edge in the global telecommunications market.⁸⁰

III. REGULATORY ISSUES RESOLVED: NARROWING THE OBSTACLES TO IMPLEMENTATION

"After four years and with an extensive record, the time has come for the Commission to decide how PCS will impact [sic] the future of our telecommunications infrastructure into the 21st century."⁸¹

The Commission has devoted significant time, effort and resources toward ensuring that PCS delivery does not become hampered by regulations and regulatory delays and that PCS has an efficient start and a longlasting beneficial existence.⁸² As of May, 1993, there were more than 150 participants in the FCC's PCS proceedings, and over 100 companies already have been granted experimental PCS licenses.

A. Spectrum Allocation

It is generally agreed that current technology makes mobile communications feasible only on frequencies below 3000 MHz.⁸³ The problem is that there are no remaining blocks of unallocated spectrum in that range.⁸⁴

1. Allocation in the 1850 MHz - 2200 MHz Frequency Range

Participants in the FCC's PCS proceeding suggested that the Commission allocate spectrum for PCS in the 1850 - 2200 MHz range.⁸⁵ One benefit to this allocation is that U.S. technology would then be technically consistent with PCS offered on a global scale, where the 1700 - 2300 MHz range is predicted to be allocated for PCS world-wide.⁸⁶ Another benefit to this frequency allocation is that the United States would be able to develop a wireless network that could provide emergency communications needs when natural disasters, such as earthquakes or tornados, destroy the existing emergency service operations.⁸⁷

⁷⁴ *Action in Docket Case—FCC Clarifies and Refines Policies Regarding Spectrum Available for Emerging Telecommunications Technologies* (ET Dkt. No. 92-9), FCC News, Mar. 8, 1994, at 1 [hereinafter *Spectrum Redevelopment Clarification*].

⁷⁵ *Competitive Bidding Second Report and Order*, *supra* note 7, para. 1.

⁷⁶ *PCS NPRM*, *supra* note 1, para. 6.

⁷⁷ *Id.*

⁷⁸ *Id.* para. 26.

⁷⁹ See Andrew C. Barrett, Opening Address at the Federal Communications Bar Association/Telocator, 1992 Personal

Communications Services Seminar 3 (Sept. 9, 1992).

⁸⁰ *PCS NPRM*, *supra* note 1, para. 139.

⁸¹ Duggan, *supra* note 14, at 4.

⁸² *PCS NPRM*, *supra* note 1, paras. 5-6.

⁸³ *PCS NOI*, *supra* note 2, para. 20.

⁸⁴ *Id.*

⁸⁵ *PCS Policy Statement*, *supra* note 9, para. 4.

⁸⁶ *PCS NOI*, *supra* note 2, para. 12.

⁸⁷ *Id.* Existing emergency service operations currently are not based on wireless technology. See *id.*

Upon consideration of these benefits, on January 16, 1992, the Commission adopted a *Notice of Proposed Rule Making* proposing to allocate 220 MHz of spectrum between 1850 and 2200 MHz to satisfy the spectrum needs of new services such as PCS.⁸⁸ Subsequently, on September 23, 1993, the FCC adopted a *Second Report and Order* on the establishment of PCS.⁸⁹ In this action, the Commission authorized the operation of PCS service in the 2 GHz band, and allocated a total of 160 MHz for these services: 120 MHz for licensed PCS and 40 MHz for unlicensed PCS.⁹⁰ The allocation for licensed PCS was further split into two 30 MHz blocks of spectrum: one 20 MHz block and four 10 MHz blocks.⁹¹ The Commission divided unlicensed PCS into two 20 MHz blocks: one for voice services, the other for data services.⁹²

Additionally, the FCC established a ten year license term for PCS⁹³ and placed PCS license eligibility restrictions on various other mobile services licensees such as cellular service providers and LECs.⁹⁴ For example, in the *PCS NPRM* the Commission recognized that PCS and cellular licensees serving the same areas will compete based on price and quality, resulting in benefits to the consumers in the form of lower prices and improved service.⁹⁵ Cellular companies already have the knowledge and the experience to develop wireless multicell networks and this expertise could benefit the PCS service.⁹⁶

However, the Commission argued that the benefits resulting from PCS and cellular competition may be reduced if cellular incumbents are permitted to ob-

tain PCS licenses within their service areas.⁹⁷ Cellular incumbents might get licenses for PCS in place of potential competitors, thereby decreasing the number of independent competitors in the market.⁹⁸ These concerns would disappear if cellular service providers only were permitted to get PCS licenses outside of their current service areas.⁹⁹ Based on the Commission's action of September 23, 1993, cellular licensees will be able to participate in PCS outside of their existing service areas or in areas where the cellular licensee serves less than ten percent of the population of the PCS service area.¹⁰⁰

While the LECs may be able to advance PCS development by providing efficient interconnection to the public switched network, commenters have voiced concern that if the LECs are allowed to provide PCS within their service areas, the LECs may fall into a pattern of discrimination against competitors requesting interconnection.¹⁰¹ Furthermore, LECs may cross-subsidize PCS service from expenses made to serve rate-regulated wireline consumers.¹⁰²

The Commission stated that the disadvantages of LEC eligibility could be minimized by implementing safeguards against discrimination and cross-subsidies. In addition, allowing LECs to provide PCS service would encourage them to construct their wireline in a "PCS-friendly" way, thus benefiting all PCS users and providers.¹⁰³ Therefore, LECs will be eligible to obtain a PCS license, subject to any interests they have in cellular operations.¹⁰⁴

⁸⁸ *Spectrum NPRM*, *supra* note 51, para. 1.

⁸⁹ *PCS Second Report and Order*, *supra* note 12, para. 1. Commissioner Ervin S. Duggan issued a concurring statement to the *Second Report and Order*, praising the action taken by the Commission in that it advances the Commission's goals set forth at the beginning of the PCS rulemakings, it may help decrease the climbing federal budget deficit, it creates new jobs and improves the U.S. global competitive edge. *Id.* at 7874. Commissioner Andrew C. Barrett rendered a dissenting opinion to the *Second Report and Order*, contending that the action taken by the Commission does not provide enough opportunities for small businesses, rural telephone companies, minorities and women to firmly compete for PCS services. *Id.* at 7856.

⁹⁰ *Id.* para. 30. Unlicensed PCS devices envisioned include advanced cordless telephones, and data communications systems and devices for linking personal computers. *Id.* para. 80. The Commission recognized that some forms of PCS might best be used on an unlicensed basis. This would allow a speedy deployment of PCS technology by allowing manufacturers to test and market services without delays associated with licensing. *Id.* para. 79.

⁹¹ *Id.* para. 56. Commissioner Barrett further argued in his dissenting opinion that the allocation of four 10 MHz blocks is not economically viable. *Id.* at 7857. To illustrate his point,

Commissioner Barrett pointed out that a geographic coverage chart indicates that use of a 10 MHz block only will allow geographic coverage in 15 to 30% of an entire urban area. *Id.* at 7860. This coverage falls significantly below the 70 to 80% coverage required to compete effectively in the urban market. *Id.*

⁹² *Id.* para. 79.

⁹³ *Id.* para. 130. The renewal expectancy for a PCS licensee is similar to that which applies to cellular licensees. *Id.* para. 131.

⁹⁴ *Id.* paras. 97, 112.

⁹⁵ *PCS NPRM*, *supra* note 1, para. 34.

⁹⁶ *PCS Second Report and Order*, *supra* note 12, para. 100.

⁹⁷ *Id.* para. 97.

⁹⁸ *Id.* para. 101.

⁹⁹ *Id.* para. 104.

¹⁰⁰ *Id.* para. 109. The Commission did not address what would happen if a cellular subscriber base grows beyond the 10% level.

¹⁰¹ *Id.* para. 112.

¹⁰² *Id.*

¹⁰³ *Id.* Allowing LECs to participate in PCS will produce economies of scale between wireline and PCS networks. *Id.* para. 26.

¹⁰⁴ *Id.* para. 126.

2. Spectrum Reallocation: Where Do All the Squatters Go?

On September 23, 1993, the Commission also adopted technical standards for PCS, including, among others, antenna height, power limits, and the amount of interference protection required for existing fixed microwave users and PCS operators.¹⁰⁵ After making the preliminary decision to allocate the 1850 - 2200 MHz range to PCS,¹⁰⁶ the Commission had to determine how to accommodate both new and existing users in that range.¹⁰⁷ The FCC focused on the 2 GHz portion of the spectrum because the fixed microwave users were deemed the best candidates for relocation based on their ability to operate in higher frequency bands and because they occupy the largest block of spectrum in this range.¹⁰⁸

On July 15, 1993, the Commission adopted a *Third Report and Order and Memorandum Opinion and Order* setting forth procedures that accommodated new technologies in the 2 GHz band, while providing for the equitable relocation, where necessary, of services currently operating in the 2 GHz band.¹⁰⁹ The FCC designed the plan to provide licensees of new technologies with access to the 2 GHz frequencies within a reasonable timeframe, while preventing disruption to service of existing 2 GHz operations.¹¹⁰

The plan adopted by the Commission provides separate frequency relocation policies for licensed emerging technology services and for unlicensed devices.¹¹¹ For licensed services, the Commission will provide a two year time period commencing upon FCC acceptance of applications for new services, at which time the Commission will encourage new service providers and existing users of this area of the spectrum to negotiate the terms of relocation.¹¹² At this stage, the FCC will not order negotiations.¹¹³ However, when the two year period has elapsed, the new licensee must initiate a one year time period

within which negotiations between it and the fixed microwave licensee must take place.¹¹⁴

In comparison, for unlicensed devices the Commission will provide a one-year mandatory negotiation period to begin when the manufacturers of unlicensed devices, or their representatives, initiate negotiations.¹¹⁵ Upon expiration of the mandatory negotiation period for both licensed services and unlicensed devices, new service providers may seek an involuntary relocation of the fixed microwave facilities.¹¹⁶ The new service providers will be required to compensate the fixed microwave users for all costs associated with relocation.¹¹⁷

In its *Spectrum Redevelopment Third Report and Order*, adopted on July 15, 1993, the Commission indicated that public safety services operating in the 2 GHz band would be exempt from mandatory relocation.¹¹⁸ The Commission also discussed plans to issue tax certificates to those fixed microwave users who voluntarily relocate.¹¹⁹ However, in March 1994, the Commission issued new rules governing the availability of spectrum for emerging telecommunications technologies.¹²⁰ The new rules altered the public safety services exemption and the issuance of tax certificates. The Commission proposed to adopt an extended five-year relocation plan for public safety facilities.¹²¹ Public safety licensees are permitted to engage in voluntary negotiations for four years, followed by a one-year mandatory negotiation period.¹²² With regard to tax certificates, the Commission proposed to grant tax certificates to fixed microwave service providers during either the voluntary or mandatory relocation period.¹²³

B. Private v. Common Carrier

1. The Classification Clash for PCS

The classification of PCS as a private or common carrier will determine whether a PCS licensee must

¹⁰⁵ *Id.* paras. 141-156.

¹⁰⁶ *PCS Policy Statement*, *supra* note 9, para. 4.

¹⁰⁷ *PCS NPRM*, *supra* note 1, para. 31.

¹⁰⁸ *PCS NOI*, *supra* note 2, para. 20.

¹⁰⁹ *Spectrum Redevelopment Third R&O*, *supra* note 66, para. 1.

¹¹⁰ *Id.*

¹¹¹ *Id.* para. 2.

¹¹² *Id.*

¹¹³ *Id.*

¹¹⁴ *Id.*

¹¹⁵ *Id.*

¹¹⁶ *Id.* para. 3. Public safety services operating in the 2 GHz band are exempt from mandatory relocation. *Id.*

¹¹⁷ *Id.* The estimated cost, per microwave link, to move microwave users from the 2 GHz range is \$125,000. *Id.*; see also Ellen Messmer, *FCC Divides U.S. for New Wireless Providers; Spectrum Plan Creates Web of Service Realms*, NETWORK WORLD, Sept. 27, 1993 (discussing the Commission's latest decisions concerning allocation of the spectrum for emerging PCS).

¹¹⁸ *Spectrum Redevelopment Third R&O*, *supra* note 66, para. 3.

¹¹⁹ *Id.* para. 42.

¹²⁰ *Spectrum Redevelopment Clarification*, *supra* note 74, at 1.

¹²¹ *Id.* at 2.

¹²² *Id.*

¹²³ *Id.*

hold the service out on an indiscriminate basis.¹²⁴

From the PCS provider's perspective, a private carriage classification would be preferred over the more heavily regulated common carrier status. Advocates of classifying PCS as a common carrier claim that such a classification would offer the public the best protection from price and service discrimination.¹²⁵ Although it is difficult to predict with certainty who will own PCS licenses in the future, classification as a common carrier would assure full nondiscriminatory interconnection among competing PCS providers and other common carriers.¹²⁶

The regulatory classification of PCS was further complicated when Congress passed the 1993 Budget Act on August 10, 1993.¹²⁷ The 1993 Budget Act amended sections 3(n) and 332 of the Communications Act of 1934, creating a comprehensive regulatory framework for classifying mobile radio services.¹²⁸ Pursuant to legislative mandate, mobile services will be divided into two categories and classified as either commercial mobile services or private mobile services.¹²⁹ Those carriers that are classified as commercial mobile services are to be treated as common carriers;¹³⁰ whereas, private mobile services are not to be subject to common carrier regulation.¹³¹

2. A Comprehensive Regulatory Framework for Classification of PCS

Pursuant to section 6002(c) of the 1993 Budget Act,¹³² on September 23, 1993, the Commission adopted a *Notice of Proposed Rule Making* to establish rules defining the regulatory status and treatment of mobile services, including, specifically, PCS.¹³³ In the *Mobile Services NPRM*, the FCC addressed the definitional issues raised by revised

section 332, described the regulatory treatment of various mobile services, including PCS, and proposed the Title II provisions that would apply.¹³⁴

The Commission proposed that no single regulatory classifications be imposed on PCS services.¹³⁵ Although the Commission believed that one of the primary objectives of Congress in amending section 332 was to ensure that PCS would be regulated as commercial mobile services,¹³⁶ the Commission did not believe that PCS should be limited to the commercial mobile services definition.¹³⁷

The FCC also proposed that if PCS is defined to include both commercial and private mobile services, PCS licensees should be able to choose which mobile service to provide, whether it be commercial or private, regardless of the frequency assigned to the licensee.¹³⁸ Whatever classification scheme is ultimately adopted, the Commission will still have to resolve a number of practical problems, including: how to process applications for applicants who want to provide both commercial and private mobile services; whether licensees should be permitted to change the nature of their services during their licensing term; and enforcement of the requirements.¹³⁹

IV. A LICENSING SCHEME: A LOOK AT THE HIGH STAKES OF THE FCC'S SPECTRUM AUCTION AND ITS EFFECT ON PCS

"[L]icenses for space on the radio spectrum have become the hottest parcels of real estate in the country."¹⁴⁰

In addition to establishing the classification of mobile services, the 1993 Budget Act added section

¹²⁴ *PCS NPRM*, *supra* note 1, para. 96 (citing 47 U.S.C. § 332(c)(1) (1993)). Furthermore, foreign ownership restrictions enumerated in section 310(b) of the Communications Act would not apply and state and local entry and rate regulation would be prohibited. *See id.*

¹²⁵ Duggan, *supra* note 34, at 3.

¹²⁶ *Id.*

¹²⁷ Pub. L. No. 103-66, § 6002(c), 107 Stat. at 393.

¹²⁸ *Id.*

¹²⁹ *Mobile Services NPRM*, *supra* note 70, para. 3. Section 332 previously governed private land mobile services. *See id.*

¹³⁰ *Id.* A service will be defined as a commercial mobile service pursuant to section 332(d) under the FCC's three-prong analysis if: (i) the service is provided for a profit; (ii) the service is interconnected; and (iii) the interconnected service is available to the public or "to such classes of eligible users as to be effectively available to a substantial portion of the public." *Id.* para. 10. The Commission may exempt commercial mobile service providers from complying with the Title II requirements of the

Communications Act of 1934 with the exception of sections 201, 202 and 208. *Id.* para. 56.

¹³¹ *Id.* para. 10.

¹³² Pub. L. No. 103-66, § 6002(c), 107 Stat. at 393. The Commission is required to complete a rulemaking within 180 days of the enactment of the 1993 Budget Act. *Mobile Services NPRM*, *supra* note 70, para. 4.

¹³³ *Mobile Services NPRM*, *supra* note 70, para. 1.

¹³⁴ *Id.* para. 2.

¹³⁵ *Id.* para. 45.

¹³⁶ *Id.*

¹³⁷ *Id.*

¹³⁸ *Id.* para. 46. The Commission has allowed licensees in other services, such as Multipoint Distribution Service and Domestic Satellite Service, to choose their own regulatory status. *Id.*

¹³⁹ *Id.* para. 48.

¹⁴⁰ Edmund L. Andrews, *In Auctioning the Airwaves, Who'll Risk What?*, N.Y. TIMES, Sept. 27, 1993, at D1.

309(j) to the Communications Act of 1934, which gives the Commission the authority to use a competitive bidding process to choose from among two or more mutually exclusive applications for initial licenses or construction permits.¹⁴¹ With the support of the Clinton administration, and after years of unsuccessful government efforts to pass a bill that provides for government compensation for the use of the spectrum, the concept of spectrum auctions has finally evolved.¹⁴²

The 1993 Budget Act supports Congress's continuing goal of raising significant revenues to offset the massive federal budget deficit.¹⁴³ The idea of raising money through auctions is not something new for the government, as it already employs auction proceedings for oil, grazing and timber rights.¹⁴⁴ The Congressional Budget Office estimated that spectrum auctions could raise over \$7.2 billion over five years through auctioning licenses for new communications services.¹⁴⁵

By March 8, 1994, the FCC was required to adopt a regulatory scheme implementing section 309(j) of the 1934 Communications Act, 210 days after the enactment of the 1993 Budget Act.¹⁴⁶ PCS will be the first service to be licensed through the spectrum auction process.¹⁴⁷ The Commission also was required to begin issuing PCS licenses by May 7, 1994, 270 days after the 1993 Budget Act's enactment.¹⁴⁸ In its July 16, 1992 *PCS NPRM*, the Commission solicited comments on the method of selecting a licensee among mutually exclusive PCS applications.¹⁴⁹ Traditionally, there have been two methods to choose a licensee from among mutually exclusive applications: comparative hearings and lotteries.¹⁵⁰

A. Comparative Hearings

Until 1982, the Commission's primary method of selecting among competing applicants consisted of administrative hearings held before administrative law judges.¹⁵¹ The applicant who was determined better able to serve the public interest, convenience and necessity, as set forth in section 309(b) of the Communications Act of 1934, was awarded the license.¹⁵²

There are two main disadvantages to the comparative hearing method of license selection. First, these hearings impose inordinate delays upon the applicants in receiving licenses and upon the public in receiving additional service.¹⁵³ Furthermore, the lengthy process of analyzing applications, conducting hearings and handling appeals ties up the increasingly scarce resources of the Commission.¹⁵⁴

B. Lotteries

In 1981, Congress added another license selection method by authorizing the use of random selection in the form of lotteries.¹⁵⁵ Lotteries have proven to be better than comparative hearings because they take up less time and use fewer of the Commission's resources.¹⁵⁶ Lotteries have been used to award licenses for cellular, paging, low-power television, interactive video and data services, and wireless voice and data transmission services.¹⁵⁷

Nonetheless, lotteries do have some drawbacks. Because of the low application cost, as compared to comparative hearings, the number of applicants increased dramatically, which imposed a substantial administrative burden on the Commission.¹⁵⁸ Furthermore, because of liberal transferability rules, many applicants viewed lotteries as "private auctions."¹⁵⁹ For example, an applicant who won a li-

¹⁴¹ Pub. L. No. 103-66, § 6002(a), 107 Stat. at 388.

¹⁴² *Markey Pledges Action on \$7.2 Billion Spectrum Auction Plan*, FCC REP., May 5, 1993, at 10.

¹⁴³ See *id.* The inference can be drawn from the legislative history behind the Act that the primary goal of section 309(j) was for the competitive bidding licensing scheme to be used as a revenue enhancement measure. All of the money raised through such auctions will go directly to the United States Treasury and not to the FCC. Pub. L. No. 103-66, § 6002, 107 Stat. at 390.

¹⁴⁴ *Congress Mulls Auctioning Frequencies, Legislation Offered*, FCC WEEK, Mar. 18, 1991.

¹⁴⁵ Markey, *supra* note 142, at 10.

¹⁴⁶ Pub. L. No. 103-66, § 6002(c), 107 Stat. at 396.

¹⁴⁷ *Competitive Bidding NPRM*, *supra* note 4, para. 1.

¹⁴⁸ Pub. L. No. 103-66, § 6002(c), 107 Stat. at 396.

¹⁴⁹ *PCS NPRM*, *supra* note 1, para. 86.

¹⁵⁰ Kurt A. Wimmer, *Netting Federal Revenues From Thin Air*, COMM. LAWYER, Summer 1993, at 11 (discussing new methods the Commission is considering in issuing spectrum licenses).

¹⁵¹ *PCS NPRM*, *supra* note 1, at App. D.

¹⁵² Wimmer, *supra* note 150, at 11.

¹⁵³ *Id.*; see also *PCS NPRM*, *supra* note 1, at App. D.

¹⁵⁴ *PCS NPRM*, *supra* note 1, at App. D.

¹⁵⁵ 47 U.S.C. § 309(i) (1988).

¹⁵⁶ *PCS NPRM*, *supra* note 1, para. 84.

¹⁵⁷ Wimmer, *supra* note 150, at 12.

¹⁵⁸ *PCS NPRM*, *supra* note 1, at App. D. In 1984, there were over 5,000 applications filed for cellular licenses in metropolitan markets 91 to 120. *Id.*

¹⁵⁹ Wimmer, *supra* note 150, at 12.

cense through the lottery would then resell the license to a well-financed communications company for a significant amount of money.¹⁶⁰

C. Spectrum Auctions

In the 1993 Budget Act, Congress gave the FCC the authority to implement a new licensing method known as competitive bidding.¹⁶¹ In response, on September 23, 1993, the Commission adopted a *Notice of Proposed Rule Making* to implement its new authority to use auctions to award certain licenses for the use of the radio spectrum.¹⁶² The FCC's authority to grant licenses by competitive bidding ends in two years if the Commission fails to take certain actions in a timely manner.¹⁶³ Nevertheless, this authority expires on September 30, 1998.¹⁶⁴

The FCC proposed that competitive bidding be limited to mutually exclusive applications for initial licenses or construction permits that have been accepted for filing by the Commission as well as to radio communications services that involve the sale of these services to subscribers for compensation.¹⁶⁵ The Commission also proposed to exclude most of the mass media services, public safety services, the broadcast auxiliary service, and services provided on subcarrier channels, from competitive bidding.¹⁶⁶

The FCC sought comment on the role of small businesses, rural telephone companies, and businesses owned by women and minorities in the competitive bidding process.¹⁶⁷ The Commission set forth three proposals to safeguard their role in the spectrum auctions: (1) set aside blocks of spectrum for competitive bidding by certain groups; (2) provide for payment plans over an extended period of time;

and (3) provide tax certificate benefits.¹⁶⁸

The FCC also sought comment on auction design, specifically relating to the bidding and payment methods, bidder qualifications, and eligibility.¹⁶⁹ The Commission proposed that for the time being, oral bidding should be the basic bidding method.¹⁷⁰ Under this process, those participating in the bidding process raise the price until only one bidder remains.¹⁷¹ The Commission also sought comment on the use of electronic bidding and sealed bidding.¹⁷² As for payment methods, the Commission proposed that all bidders, with the exception of those receiving categorized preferences, should submit lump sum payments.¹⁷³

The Commission proposed to implement a multi-step application process for competitive bidding. To start the process, the Commission proposed to require prospective bidders to file a short-form application as well as a long-form application at the same time.¹⁷⁴ In the first step, prior to the auction, the Commission will review only the short-form applications to ensure that the prospective bidders have the required basic qualifications.¹⁷⁵ The Commission will then issue a public notice prior to the auction, listing the qualified bidders.¹⁷⁶ Finally, the Commission will examine the long-form applications of only the winning bidders.¹⁷⁷

To ensure the prompt and efficient delivery of new communications services, the Commission proposed to adopt procedures that will limit the bidding to those who manifest serious intent and financial wherewithal to qualify for a license.¹⁷⁸ One such procedure the FCC proposed would require bidders to submit to the Commission a substantial down payment or bond with their bid.¹⁷⁹ The Commission

¹⁶⁰ *Id.*

¹⁶¹ Pub. L. No. 103-66, § 6002(a), 107 Stat. at 390.

¹⁶² *Competitive Bidding NPRM*, *supra* note 4, para. 1.

¹⁶³ *Id.* para. 16.

¹⁶⁴ Pub. L. No. 103-66, § 6002(a), 107 Stat. at 392.

¹⁶⁵ *Competitive Bidding NPRM*, *supra* note 4, paras. 21-23.

¹⁶⁶ *Id.* paras. 23-25.

¹⁶⁷ *Id.* para. 72.

¹⁶⁸ *Id.* para. 79.

¹⁶⁹ *Id.* para. 34.

¹⁷⁰ *Id.* para. 46.

¹⁷¹ *Id.* para. 37. One disadvantage to oral bidding is that it is more subject to manipulation than any other method. For example, in oral bidding, it is easier for parties to collaborate beforehand and agree on who should win, and bid accordingly, thereby also minimizing the amount of the winning bid. *Id.* para. 38.

¹⁷² *Id.* paras. 39-40. Under electronic bidding, bids are placed via an electronic network. *Id.*

¹⁷³ *Id.* para. 68. Bidders who represent small businesses, rural telephone companies and businesses owned by women and

minorities will receive preferences. *Id.*

¹⁷⁴ *Id.* para. 97.

¹⁷⁵ *Id.* The Commission proposed to require, at a minimum, the following information in the short-form application: the license for which the applicant wants to bid, the applicant's name, the identity of the person who will be placing the bid (oral bidding), certification that the applicant is qualified under sections 309(a), 308(b) and 310 of the Communications Act, and certification that the applicant is financially qualified. *Id.* para. 98. Any applicant determined not to be in compliance with Commission rules will be dismissed. *Id.* para. 99.

¹⁷⁶ *Id.* para. 101.

¹⁷⁷ *Id.* para. 100. Long-form applications will resemble the application form required for the particular license. *Id.*

¹⁷⁸ *Id.* para. 102.

¹⁷⁹ *Id.* The amount of the requisite payment would depend upon the type of license or construction permit sought. Information regarding the requisite payment would be announced by public notice before the auction takes place. *Id.* para. 103.

also proposed not to reimburse the bidders later determined to have filed sham applications.¹⁸⁰

Pursuant to the congressionally-mandated deadline of March 8, 1994,¹⁸¹ the Commission adopted a *Second Report and Order* prescribing a regulatory scheme for the use of competitive bidding to award licenses.¹⁸² The *Second Report and Order* clarified and refined the rules proposed in the *Competitive Bidding NPRM*.¹⁸³ The Commission concluded that it will award licenses using simultaneous multiple round bidding, because this type of bidding allows the price to remain open to the public on all licenses until the bidding stops on every license, and thus allows bidders to pursue back-up strategies.¹⁸⁴

D. The Effect of Competitive Bidding on PCS

An unsettled issue with regard to competitive bidding is the controversy over whether the marketplace can allocate the spectrum more efficiently than the government.¹⁸⁵ Analysts claim that it is misleading to assume that those who can afford to pay the most money for the license will actually use the spectrum most efficiently and better serve the public interest.¹⁸⁶ Additionally, spectrum auctions might have the effect of barring technology development innovators who lack the money needed to bid successfully for a license.¹⁸⁷ The Commission's policy goals of providing opportunities for small businesses and minority-owned and controlled companies could suffer in a competitive bidding environment.¹⁸⁸

The Commission proposed to set aside one 20 MHz block of spectrum to provide small business, rural telephone companies and businesses owned by

minorities and women an opportunity to compete for PCS licenses.¹⁸⁹ In addition, the Commission proposed that this group be permitted to pay their winning bid over time and to pay less of a qualifying deposit than that required by other bidders competing for PCS licenses.¹⁹⁰

The *Competitive Bidding Second Report and Order* addressed the participation in competitive bidding by small businesses, rural telephone companies, and businesses owned by women and minorities. The Commission adopted the proposals set forth in the *Competitive Bidding NPRM*, whereby the three groups will be able to receive certain preferences, such as paying for winning bids in installments and paying less of a qualifying deposit than that required by other bidders.¹⁹¹ To prevent abuse of the preference system, the Commission adopted specific standards for determining eligibility for these preferences.¹⁹² The addition of adequate safeguards for small businesses, rural telephone companies, and businesses owned by women and minorities to obtain PCS licenses through competitive bidding serves to balance somewhat the role of the government and that of the marketplace, ultimately settling the controversy over which can allocate the spectrum more efficiently.

Other controversies must still be resolved before the congressionally-mandated May 7, 1994 deadline requiring the Commission to begin PCS license auctions. These issues include: the use of oral versus sealed bidding for certain blocks of spectrum, the acceptance of bids for nationwide PCS licenses, and the use of multiple-round bidding to facilitate the ag-

¹⁸⁰ *Id.* para. 104.

¹⁸¹ Pub. L. No. 103-66, § 6002(c), 107 Stat. at 396.

¹⁸² *Competitive Bidding Second Report and Order*, *supra* note 7, para. 1.

¹⁸³ *Id.*

¹⁸⁴ *Id.* para. 106. Simultaneous multiple round bidding will facilitate aggregation across spectrum bands, thereby promoting efficiency and vigorous competition for new services. *Id.*

¹⁸⁵ Wimmer, *supra* note 150, at 11.

¹⁸⁶ *Congress Mulls Auctioning*, *supra* note 144, at 3. Furthermore, section 309(j) prohibits the Commission from basing a finding of public interest, convenience and necessity on the expectation of revenue that would result from competitive bidding. *Competitive Bidding NPRM*, *supra* note 4, para. 14.

¹⁸⁷ Wimmer, *supra* note 150, at 13.

¹⁸⁸ *Id.* Rep. Ed Markey, D-Mass., Chairman of the House Telecommunications Subcommittee, identified this as a sore spot, indicating that his goal in this process is to "come up with an auction bill that gets the administration the revenue it seeks and does not trample upon sound communications policymaking." *Markey Pledges Action*, *supra* note 142, at 11.

¹⁸⁹ *Competitive Bidding NPRM*, *supra* note 4, para. 121.

¹⁹⁰ *Id.* Commissioner Barrett voiced his concern about the potential for abuse the competitive bidding process could have over small individual companies seeking licenses for PCS. He would like to see a "more equitable playing field" in order to ensure that a diverse source of participants are able to win a bid. *Id.* at 7667. (Commissioner Barrett wrote a lengthy dissent to this rulemaking on a 3-person board of FCC commissioners).

¹⁹¹ *Competitive Bidding Second Report and Order*, *supra* note 7, paras. 231-241.

¹⁹² *Id.* To be eligible for a preference as a small business, the business must be independently-owned with a net worth less than or equal to \$6 million and an average net income (after taxes for the preceding two years) not over \$2 million. *Id.* para. 271. To be eligible as a rural telephone company, the company must be independently-owned, have 50,000 or less access lines and serve a community with less than 10,000 inhabitants. *Id.* para. 282. To be eligible as a business owned by women or minorities, the business must have at least 50.1% equity ownership and a 50.1% controlling interest by women or minorities. *Id.* para. 277.

gregation of spectrum blocks.¹⁹³ Furthermore, some potential PCS applicants may not appreciate the Commission's newly created "class system" for the auctions.¹⁹⁴ Small players (those categorized as small businesses, rural telephone companies, and businesses owned by women and minorities) will be able to compete effectively for a portion of the spectrum due to the safeguards prescribed by the Commission. Big players will fare well due to the large blocks of spectrum the Commission has agreed to auction. However, medium-sized players may be shut out from the bidding because they cannot afford to outbid the big players for the large blocks of spectrum, and they are not small enough to qualify for the safeguards created for small players.¹⁹⁵

Despite the variety of controversies yet unresolved, there is still a strong likelihood that competitive bidding will enable the Commission to grant licenses for PCS in a shorter amount of time than that resulting from comparative hearings.¹⁹⁶ The competitive bidding process will avoid the administrative and judi-

cial delays usually associated with comparative hearings.¹⁹⁷

V. CONCLUSION

The creation of PCS will make available a broad range of new services and technologies to consumers. In March of 1994, the Commission took further action regarding the implementation of a competitive bidding licensing process, and adopted final rules regarding spectrum availability for new emerging telecommunications technologies. Both of these actions bring the Commission closer to its goals of introducing PCS to the consumer at low cost and with as little regulatory delay as possible. The Commission will begin issuing licenses for PCS in early 1995, thereby providing service to the consumer, and putting behind the vast and complicated preliminary regulatory issues debated in the formal proceedings conducted over the past five years.

¹⁹³ *Competitive Bidding NPRM*, *supra* note 4, paras. 120-124.

¹⁹⁴ *Hold Off on Wireless Auction*, WALL ST. J., Mar. 29, 1994, at A16. Potential applicants may fare differently depending on whether they are small, medium or large players. *See id.*

¹⁹⁵ *Id.*

¹⁹⁶ *Competitive Bidding NPRM*, *supra* note 4, para. 117.

¹⁹⁷ *Id.* The use of subscribers precludes the use of the lottery method of awarding licenses. *Id.* para. 118.

